

# PATENT COOPERATION TREATY

TRANSLATION

From the  
INTERNATIONAL SEARCHING AUTHORITY

## PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing  
(day/month/year)

Applicant's or agent's file reference  
**664732**

**FOR FURTHER ACTION**

See paragraph 2 below

International application No.  
**PCT/JP2004/016000**

International filing date (day/month/year)  
**28.10.2004**

Priority date (day/month/year)  
**30.10.2003**

International Patent Classification (IPC) or both national classification and IPC

Applicant

**MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.**

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/JP

Authorized officer

Facsimile No.

Telephone No.

**WRITTEN OPINION OF THE  
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International application No.

PCT/JP2004/016000

**Box No. I**      **Basis of this opinion**

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This opinion has been established on the basis of a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
- a. type of material
- ☐ a sequence listing
- ☐ table(s) related to the sequence listing
- b. format of material
- ☐ in written format
- ☐ in computer readable form
- c. time of filing/furnishing
- ☐ contained in the international application as filed.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
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PCT/JP2004/016000

Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
<b>1. Statement</b>			
Novelty (N)	Claims	1-54	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-54	NO
Industrial applicability (IA)	Claims	1-54	YES
	Claims		NO
<b>2. Citations and explanations:</b>			
Document 1:	JP 63-82002 A (Koden Electronics Co., Ltd.), 12 April 1988, Full text; all drawings (Family: none)		
Document 2:	JP 2001-284942 A (Hitachi Kokusai Electric Inc.), 12 October 2001, paragraphs 0017 and 0019, all drawings (Family: none)		
Document 3:	JP 57-103406 A (Nippon Telegraph and Telephone Public Corp.), 28 June 1982, Full text; Fig. 2 (Family: none)		
Document 4:	JP 8-97632 A (Nippon Telegraph and Telephone Corp.), 12 April 1996, Full text; all drawings (Family: none)		
Document 5:	JP 2003-509884 A (Telefonaktiebolaget LM Ericsson (publ)), 11 March 2003 & SE 9903115 A & CN 1391713 T & WO 2001/018910 A1 & AU 7047500 A & EP 1210746 A & US 2002-175871 A1		
Document 6:	JP 2002-190708 A (Matsushita Electric Industrial Co., Ltd.) 5 July 2002, paragraphs 0070, 0090-0094, Figs. 9, 10, 20 & EP 1198028 A1 & CN 1348236 A & US 2002-47805 A1		
Document 7:	JP 3-230603 A (Hiroyuki ARAI) 14 October 1991, Full text; all drawings (Family: none)		
Document 8:	JP 2001-352260 A (Siemens AG.), 21 December 2001, Full text; Figs. 7, 8 & EP 1137192 A1 & US 2002-44100 A1		
Document 9:	JP 9-260938 A (Aisin Seiki Co., Ltd.) 03 October 1997, Full text; all drawings (Family: none)		
Document 10:	JP 2001-160710 A (Toyo Communication Equipment Co., Ltd.) 12 June 2001, Full text; all drawings (Family: none)		

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: Box V

Document 11: JP 2001-298388 A (Toshiba Tec Corp.), 26 October 2001, Full text; all drawings (Family: none)

(1) Regarding the inventions of claims 1-4: documents 1 and 2

Document 1 describes an antenna device having a plurality of antennas placed in such a way as to have their main beam directions intersect perpendicularly with each other and a control means to connect one of the antennas selectively to a receiving circuit.

Document 2 describes an antenna device having a plurality of antennas wherein the antennas that are not connected to a receiving circuit are terminated.

The inventions of claims 1-4 would be easily conceived of by a party skilled in the art as needed by simply combining the inventions of documents 1 and 2.

(2) Regarding the inventions of claims 5-7: documents 1-4

Document 3 describes a waveguide antenna that opens only on one side and sends and receives wireless signals with a specified directional characteristic at the opened end.

Document 4 describes an antenna device having a horn antenna's opening on each side of a polygonal shape.

It would be easy for a person skilled in the art to use the waveguide antenna of document 3 in place of the horn antenna of document 4.

(3) Regarding the inventions of claims 7 and 8: documents 1-5

Document 5 describes forming a slot between the power supply point and the short-circuiting plate of a stack patch antenna.

(4) Regarding the inventions of claim 10: documents 1-6

Document 6 describes filling the inside of the waveguide tube with a dielectric substance in an antenna having a slot formed on the waveguide tube.

(5) Regarding the inventions of claims 11-18: documents 1-7

Document 7 describes planar type antennas placed adjacent to each other in such a way as to share a dividing wall conductor and to also form the dividing wall with a through hole (page 2, left bottom column).

(6) Regarding the inventions of claims 19-21: documents 1-7

Document 6 describes a matching conductor connected to the space between a ceiling conductor and a grounding conductor.

(7) Regarding the invention of claim 22: documents 1-8

Document 8 describes an antenna device having a plurality of matching conductors connecting a metallic plate to a bottom board.

(8) Regarding the invention of claim 23: documents 1-9

Document 9 describes a waveguide electrically connected to a bottom board.

(9) Regarding the inventions of claims 24-31: documents 1-10

Document 10 describes a waveguide having a perpendicular part and a horizontal part on the bottom board.

(10) Regarding the inventions of claims 32 and 33: documents 1-11

Document 11 describes an area antenna having a plurality of antenna elements, a signal level adjusting circuit, a phase shifter, and a signal synthesizer.

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Supplemental Box

Continuation of Box V

- (11) Regarding the inventions of claims 32 and 33: documents 1-4
- (12) Regarding the inventions of claims 34-37: documents 1-6
- (13) Regarding the invention of claim 38: documents 1-7
- (14) Regarding the inventions of claims 39-44: documents 1-6
- (15) Regarding the inventions of claims 45-48: documents 1-7
- (16) Regarding the invention of claim 49: documents 1-8
- (17) Regarding the invention of claim 50: documents 1-9
- (18) Regarding the inventions of claims 51, 52, 54: documents 1-10
- (19) Regarding the invention of claim 53: documents 1-11